REMARKS

Claims 1-62 are pending, and all claims carry the rejection as set forth in the last Office Action mailed on 7 April 2004. Applicants have cancelled claims 52-55, leaving claims 1-51 and 56-62 remaining for examination.

Rejections under 35 USC 102

Claims 1-51 and 56-62 remain pending, and all have been rejected under 35 USC 102(e) based on Locklear, Jr. et al., U.S. Pat. No. 6,252,878 B1 ("Locklear, Jr. et al.").

Applicants appreciate the Examiner's response on page 7 of the Office Action to three of the arguments presented in the last paper, arguments related to claims 1, 2 and 10 on pages 14-16 of the last response. However, we do not find any response to arguments regarding claims 6, 9, 13-24, 34-40 and 56-62, among others.

Applicants appreciate the Examiner's identification, on page 7, of a route processor RP 106 as what he considers a "storage device" in Locklear, Jr. et al. We think that comparing RP 106 to claim 13 makes it particularly clear that the RP 106 is not a "storage device" as that term is defined in the claims, understood in the art and repeatedly used throughout the specification of this application.

Locklear, Jr. et al. describes the route processors 106 at length in column 4. We reproduce the text here so that it will be handy and easier to read than in a printed patent:

> Each **route processor 106** maintains a **routing table 130** and a client function 132. Routing table 130 maintains information that allows route processor 106 to route information between LAN 40 using LAN interface 110 and WAN 52 using WAN interface 100. Client function 132 collects and communicates information regarding the operation of route processor 106 to controller 112 using bus 114. **In general, route processors 106 perform termination, conversion, segmentation, reassembly, addressing, and other functions supported by routers, bridges, gateways, multiplexers,** and other WAN and LAN networking devices.
>
> A server function 134 supported by controller 112 or an external server function accessed using link 136 uses information regarding the operation of route processor 106 to provide accounting and authentication services to

> access server 16. Both routing table 130 and client function 132 reside at route processor 106 as shown in FIG. 2, in controller 112, database 118, other components of access server 16, and/or in remote components accessible by link 136.
>
> WAN interface 100 and switch fabric 104 operate using the WAN protocol supported by data network 18, whereas LAN interface 110 operates using the LAN protocol supported by LAN 40. **Route processors 106 provide termination of the WAN protocol, assembly, and/or conversion into a LAN protocol, authentication and error correction, and subsequent routing in the LAN protocol to device 14.** These operations performed by route processor 106 are processor-intensive and, in traditional routers, introduce a potential source of degradation in communication bandwidth.
>
> To ameliorate or eliminate this degradation, **switch fabric 104 balances the load on route processors 106 using loading characteristics that indicate the level of activity of route processors 106.** This is performed by establishing sessions and, in one embodiment, assigning a virtual channel to each session. **Switch fabric 104 then operates in a high bandwidth WAN protocol and efficiently communicates information to selected route processors 106 based on the establishment of a session.** As the session count increases and applications require greater bandwidth, access server 16 may upgrade or add route processors 106 to accommodate increased demands. Therefore, switch fabric 104 establishes sessions to balance the load on route processors 106, which in turn ensures optimal and efficient provisioning of communication services by access server 16.

Understanding that the Examiner considers the RP 106 to be a storage device and recounting how Locklear, Jr. et al. describes the RP 106 should help us traverse the rejection. The operation of the RP 106 is specifically described in the third paragraph above, "Route processors 106 provide termination of the WAN protocol, assembly, and/or conversion into a LAN protocol, authentication and error correction, and subsequent routing in the LAN protocol to device 14." Neither this sentence nor the extended passage from column 4 describe a storage device.

Locklear, Jr. et al. make it clear that their invention is use of multiple route processors as part of the switch, "[t]o ameliorate or eliminate ... degradation" due to processor-intensive protocol termination, packet assembly and/or conversion, authentication and error correction and subsequent routing to a network attached device 14. According to Locklear, Jr. et al., "In operation, device 12 ... passes this

information to ... [a]ccess server 16 [which] establishes a session and supports subsequent communication between devices 12 and 14." Col. 3, lines 46-53. From FIG. 1, it appears that devices 14 could be storage devices, for instance. From FIG. 2, it is clear that RP 106 is part of the switch 16, called an access server by Locklear, Jr. et al., that manages communications between devices 12 and 14.

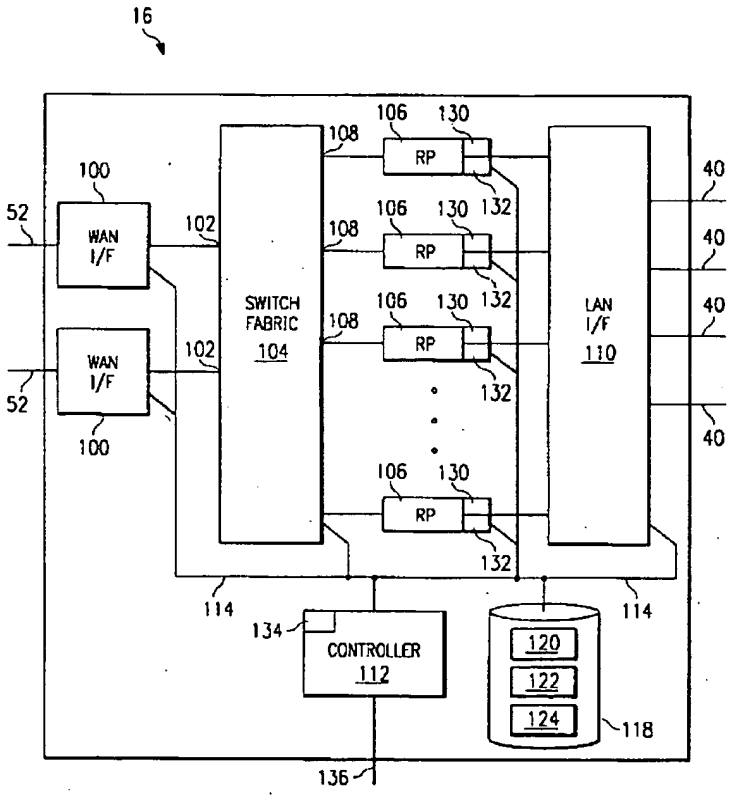

FIG. 2

The internal parts of the switch/access server 16 do not provide storage for devices 12 or 14. The route processors 106 are part of the switch/access server 16 that can be connected to storage devices via 40 or 52, but the route processors 106 do not act as storage devices. Contrast this with claim 13.

Claim 13 provides for inserting a switch between storage devices connected to a network and the network, wherein the switch appears as a virtual storage device. Looking at FIG. 2, the RP 106 devices do not start out being attached to the network. They cannot possibly be attached to a network as storage devices. Nothing is inserted

between them and the network, because they are an integral part of the switch/access server 16. In the context of claim 13, it is not possible to construe RP 106 as a storage device that begins as being attached to a network and ends up being attached to a switch that functions as a virtual storage device.

Therefore, based on elaboration of a position submitted with the previous paper, to which the Examiner has not yet responded, claim 13 is not anticipated by Locklear, Jr. et al., because route processor 106 cannot meet the limitations in claim 13 that define a "storage device." With this discussion of RP 106 in mind, we turn to the other independent claims.

Claims 1 and 25 are method and device claims that address virtually addressing a plurality of storage devices through a switch. To be consistent with claim 13, which uses the term "storage device", and to be consistent with ordinary usage (see webopedia) and the specification of this application, a storage device is not part of a switch. It provides persistent storage available to a client in a file session. Turning to page 7 of the Office Action, the Examiner argues that RP 106 is a storage device and switching fabric 104 is a switch. Applicants cannot find this in Locklear, Jr. et al. First, the route processor 106 is not separable from the switch/access server 16. A switch includes more than just a switching fabric 104, or it cannot function as a switch. Locklear, Jr. et al. describe their switch/access server 16 as a single unit, with the switching fabric efficiently coupled to route processors 106 that handle traditional tasks necessary for a switch or router to operate. Second, the route processors 106 do not provide persistent storage available to a client in a file session. Therefore, the route processors 106 cannot be storage devices within the meaning of claims 1 and 25. For this reason, Locklear, Jr. et al. does not anticipate claims 1, 25 or the claims that depend from them.

Claims 34 and 41 are method claims for failover, between devices attached to a switch (34) and between switches 41. We restate our arguments regarding claim 34 from our previous paper here, because the Examiner did not respond to them on page 7 of the Office Action or anywhere else. The Examiner again relies on column 5 line 59 to column 6 line 21, for teaching the step of predicting in a switch coupled to a first storage device that the first storage device will require failover. We again point out that, while the cited passage refers to expiration of a session, for instance by equipment

malfunction, at lines 1-2, there is no discussion of predicting a failure, much less predicting failure of a storage device. Therefore, there is no anticipation of claim 34 or the claims that depend from it.

Claim 41 involves fail-over between switches, not between devices attached to the switches. The Examiner must have missed this difference between claims 34 and 41, because the Examiner's basis for rejection is, "As to claims 41-47, they are also rejected for the same reasons set forth to rejecting claims 34-40 above." We invite the Examiner to revisit this basis for rejection, because there are limitations in claim 41 that do not appear in claim 34. A rejection based on the same reasons as for claim 34 cannot anticipate claim 41.

Independent claims 48 and 56 address load balancing. (We cancelled claim 52, which duplicated claim 48.) As we previously explained, without response, the Examiner responded to claims 48-55 by relying on Figures 1-2 and on column 3 line 54 to column 4 line 67, as teaching determination in a first device that a session should be transferred from the first device to a second device, due to workload considerations. This set of claims is generalized to sessions, rather than file sessions. The cited passage does not refer to any load-balancing decision logic in a first device coupled to a switch, nor does it refer to handing off an already established session. Therefore, there is no anticipation of claims 48-51.

Again, regarding claims 56-62, the Examiner relies on Figure 1 and on column 2 line 54 to column 3 line 53, for teaching cooperation between switches. This set of claims is generalized to sessions, rather than file sessions. Figure 1 is very simply described by Locklear, Jr. et al. as a communications system (a network) that provides communication between communication devices, including an access server. The cited passage which elaborates on this description of the figure is a generalized description of a network and network protocols operative with hops, routers, bridges, gateways and other suitable communication devices. The cited passage has nothing to do with cooperation between switches to accomplish load-balancing. More generally, the reference addresses an initial selection of a route processor with which to establish a session. It does not refer to handing off a session. Therefore, there is no anticipation of claims 56-62.

Next, we address dependent claims 6 and 9, repeating arguments previously made because the Examiner did not respond to the well-taken arguments.

Regarding claim 6, the Examiner again relies on column 5 line 47-58, and column 8 lines 1-13, as teaching a step of inspecting a file session packet and selecting one of a plurality of storage devices based on the contents of the packet. Of course, the switched router described by Locklear, Jr. et al. performs some packet inspection, BUT the cited text does not refer to a file session packet or to a plurality of storage devices, or to selecting from among a plurality of storage devices. Therefore, there is no anticipation of claim 6.

Regarding claim 9, without reference numbers for Figure 2 or any reference to a file directory in column 3 line 66 to column 5 line 45, Applicants cannot follow the Examiner's argument. We cannot tell what reference number(s) the Examiner believes depict a file directory and that term is not used in the cited passage. Referring again to www.webopedia.com, the definition of "directory" in the context of files is helpful. In relevant part, the first definition there reads, "An organizational unit, or container, used to organize folders and files into a hierarchical structure. Directories contain bookkeeping information about files that are, figuratively speaking, beneath them in the hierarchy. You can think of a directory as a file cabinet that contains folders that contain files." As "file directory" does not appear explicitly in the figure or cited passages and the Examiner has not made any inherency argument, there is no anticipation of claim 9.

CONCLUSION

Applicants respectfully submit that the pending claims are now in condition for allowance and thereby solicit acceptance of the claims, in light of these amendments and remarks.

An interview is invited, particularly due to the difference in how the Examiner and Applicants read Locklear, Jr. et al.'s route processors RPs 106. We do not believe that the Examiner's interpretation of RP 106 could be sustained on appeal.

Application No.: 09/525,966 **Atty Docket: 3COM 2534-1**

The undersigned can ordinarily be reached at his office at (650) 712-0340 from 8:30 to 5:30 PST, M-F and can be reached at his cell phone at (415) 902-6112 most other times.

Respectfully submitted,

Dated: July 7, 2004

Ernest J. Beffel, Jr., Reg. No. 43,489

Haynes Beffel & Wolfeld LLP
P.O. Box 366
Half Moon Bay, CA 94019
(650) 712-0340 (telephone)
(650) 712-0263 (facsimile)